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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CECHAN TIAN, YASUHIKO AOKI,
and SUSUMU KINOSHITA

Appeal 2009-005217
Application 10/695,711
Technology Center 2600

Before ROBERT E. NAPPI, KENNETH W. HAIRSTON,
and MAHSHID D. SAADAT, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge.*

DECISION ON APPEAL[1]

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's final rejection of claims 1 to 46. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

Appellants' invention relates to an optical network and method for communicating using an optical network having an optical ring and a plurality of nodes for adding and dropping traffic streams or channels to and from the ring (Fig. 1; Abstract; Spec. 3:7-6:23). The nodes may include hub node(s), sub-band node(s), and/or a combination node with sub-band, hub, and/or coupler node transport elements (Figs. 1-4 and 7; claims 1, 8, 12, 16, 23, 29, 32, 35, and 41). The hub nodes may form a plurality of photonic domains that communicate different traffic streams in the same sub-band without interference (*see* Figs. 11, 12A, 12B, and 13; claims 35-46).

Claim 35 is representative of the claimed invention, and reads as follows:

35. An optical network, comprising:

an optical ring operable to communicate optical traffic;

a plurality of nodes coupled to the optical ring, each node operable to passively add and drop one or more traffic streams to and from the optical ring, each traffic stream comprising at least one channel;

the plurality of nodes comprising:

a plurality of hub nodes operable to selectively pass or terminate a plurality of individual sub-bands of the optical traffic; and

a plurality of sub-band nodes each operable to terminate a respective sub-band of the optical traffic;

wherein the plurality of hub nodes form a plurality of photonic domains each operable to communicate different traffic streams in the same sub-bands without interference.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Way	US 2003/0025961 A1	Feb. 6, 2003
Johnson	US 6,868,201 B1	Mar. 15, 2005 (filed Mar. 22, 2002)

(i) The Examiner rejected claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 46 under 35 U.S.C. § 102(e) based upon the teachings of Way.

(ii) The Examiner rejected claims 4, 11, 15, and 19 under 35 U.S.C. § 103(a) based upon the teachings of Way and Johnson.[2]

With regard to the anticipation rejection of claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 46 and the obviousness rejection of claims 4, 11, 15, and 19, the Examiner relies on Way (*see* Figs. 6, 13, 19, and 23; ¶ [0071]) as teaching the recited limitations of an optical network including an optical ring and nodes including hub node(s), sub-band node(s), and/or a combination node with sub-band, hub, and or coupler node transport elements (Ans. 3-5). With regard to the anticipation rejection of claims 35 to 46, the Examiner relies on Way (Figs. 6, 13, and 19; ¶ [0071]) as teaching the recited limitation of hub nodes forming a plurality of photonic domains

[2] Because Appellants have failed to present *any* arguments with regard to the obviousness rejection applying Way and Johnson combined (as to claims 4, 11, 15, and 19) under § 103, there is no issue before us for review as to this rejection. *See* 37 C.F.R. § 41.37(c)(1)(vii) (requiring a statement in the briefs as to each ground of rejection presented by Appellants for review); *and see* 37 C.F.R. § 41.37(c)(1)(vii) (stating that arguments not presented in the briefs by Appellants will be refused consideration).

(Ans. 5). The Examiner determines that Figure 6 of Way discloses the claimed sub-band nodes, Figure 13 of Way discloses the non-interfering communication traffic streams in the same sub-band, and Figure 19 of Way discloses the hub nodes and associated photonic domains (Ans. 12).

With regard to the anticipation rejection of claims 35 to 46 (*see* rejection (i) *supra*), Appellants argue, *inter alia* (App. Br. 19-20; Reply Br. 2-4) that Way fails to disclose (i) plural photonic domains for communicating different traffic streams in the same sub-band without interference (and instead discloses three different bands in Figure 13, bands 62, 64, and 66), and (ii) plural hub nodes on one single and same optical ring for communicating traffic (and instead discloses three different rings).

With regard to the anticipation rejection of claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 34 (*see* rejection (i) *supra*), Appellants argue, *inter alia* (App. Br. 20-26; Reply Br. 4-6) that Way fails to disclose a hub node(s) that (i) passively adds and drops one or more traffic strings to and from a ring, *and* (ii) terminates a respective sub-band of the optical traffic. Specifically, Appellants contend that Way's hub node 24 in Figure 6 "either passes or stops traffic communicated on rings 14 and 16 depending on whether switch(es) 22 are open or closed" (App. Br. 21), but does not perform the two hub node functions discussed *supra* and recited in claims 1, 12, 16, 23, and 32. Appellants also argue (Reply Br. 5) that Way's switch 22 does not passively add and drop traffic to and from the optical ring.

With regard to claims 8 to 10 and 29 to 31, Appellants also contend (App. Br. 22-24; Reply Br. 5-6) that Way fails to disclose a combination node because there is no hub node transport element in Way that is operable to selectively pass or terminate sub-bands. Appellants admit that "[o]ne of

ordinary skill in the art is well aware that a coupler both *drops* and continues traffic on a ring" (Reply Br. 6 (emphasis added)), but assert (App. Br. 23) that Way's tunable filter 166 in Figure 23 does not selectively pass or terminate traffic because traffic is passed on the ring through coupler 120.

The obviousness rejection of claims 4, 11, 15, and 19 over Way and Johnson (*see* rejection (ii) listed *supra*) will be decided in accordance with the outcome of the issue concerning the anticipation rejection of claims 1, 8, 12, and 16 because Appellants have not presented any arguments or requested review of the obviousness rejection (ii) listed *supra*. Arguments not made by Appellants in the Brief are considered waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUES

Based on Appellants' arguments, the following issues are presented:

(i) Does Way disclose (i) plural photonic domains for communicating different traffic streams in the same sub-band without interference, and (ii) plural hub nodes on one single and same optical ring for communicating traffic as set forth in claims 35 to 46?

(ii) Does a proper interpretation of claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 34 encompass a hub node(s) that (i) passively adds and drops one or more traffic strings to and from a ring, *and* (ii) terminates a respective sub-band of the optical traffic?

(iii) Does Way disclose the limitation common to claims 8 to 10 and 29 to 31 of a hub node transport element operable to "selectively pass or terminate" traffic on the optical ring?

FINDINGS OF FACT (FF)

1. Way describes an optical network 10 including an optical ring 12/14, plural nodes 24, a hub node (Fig. 19), and sub-band nodes 26 (Fig. 6), coupler nodes 120/166 (Fig. 23) (Abstract; Figs. 6, 13, 19, and 23; ¶¶ [0057], [0071]). Way shows three different rings 54, 56, and 58 and three different bands 62, 64, and 66 in Figure 13.
2. Way describes four different embodiments as "passive optical ring networks" (Figs. 20(a)-(d); ¶¶ [0043]-[0046] and [0085]).
3. Way describes couplers 120 in Figure 23 as "drop ports" that drop traffic from the ring, and also a tunable filter 166 that cuts out certain wavelengths from the traffic (*see* ¶ [0087]).

PRINCIPLES OF LAW

Claim Construction

"During examination, 'claims … are to be given their broadest reasonable interpretation consistent with the specification, and … claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *In re Am. Acad. of Sci. Tech. Cir.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Morris*, 127 F.3d 1048, 1053-54 (Fed. Cir. 1997).

Anticipation

Anticipation is established when a single prior art reference discloses, expressly or under the principles of inherency, each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

ANALYSIS

First Issue: Claims 35 to 46

We agree with Appellants (Reply Br. 2 and 4) that Way fails to disclose a plurality of hub nodes that are each operable to passively add and drop traffic from the ring, forming a plurality of photonic domains each operable to communicate different traffic streams in the same sub-bands without interference. Although Way discloses three different rings (112, 144, and 144 in Figure 19) and three different bands (62, 64, and 66 in Figure 13) (FF 1), Way is silent as to creating photonic domains designed to communicate different traffic streams in the *same* sub-bands as set forth in the claims on appeal. Although we agree with the Examiner that claims 35 and 41 are not limited to just one ring, the Examiner has not sufficiently shown how or why Way's arrangement of three rings and three bands meet the claim recitation of a ring having plural hub nodes, and the hub nodes forming plural photonic domains, when Way only shows one hub node 142 in Figure 19.

Thus, with respect to the optical network recited in independent claims 35 and 41, we agree with Appellants (*see* App. Br. 19-20; Reply Br. 2-4) that Way fails to disclose (i) plural photonic domains for

communicating different traffic streams in the same sub-band without interference (and instead discloses three different bands in Figure 13, bands 62, 64, and 66), and (ii) plural hub nodes on one single and same optical ring for communicating traffic (and instead discloses three different rings). It follows that the Examiner has not established anticipation because Way does not disclose each and every limitation of the claimed invention set forth in independent claims 35 and 41. *Atlas Powder Co.*, 190 F.3d at 1347; *Paulsen*, 30 F.3d at 1478-79. The anticipation rejection of claims 35 to 46 is not sustained because Way does not teach (i) plural photonic domains for communicating different traffic streams in the same sub-band without interference, and (ii) plural hub nodes on one single and same optical ring for communicating traffic.

Second Issue: Claims 1 to 3, 5 to 7, 12 to 14, 16 to 18, 20 to 28, and 32 to 34

We agree with the Examiner (Ans. 12-14) that claims 1, 12, 16, 23, and 32 do not require that the hub node(s) be operable to perform both of the functions as averred by Appellants. The claim language, broadly interpreted, encompasses plural nodes that are operable to add and drop traffic from the ring, sub-band nodes or transport elements to terminate traffic, and other nodes that can include a hub node(s) or transport element for dropping or terminating traffic (*see* claims 1, 12, 16, 23, and 32). And, in light of our findings with respect to Way (FF 1), we find no error in the Examiner's reliance (*see* Ans. 3-5) on Way (*see* Figs. 6, 13, 19, and 23; ¶ [0071]) as teaching the recited limitations of an optical network including an optical ring and nodes including hub node(s), sub-band node(s), and/or a combination node with sub-band, hub, and or coupler node transport elements. Claims 1, 12, 16, 23, and 32 do not limit the plurality of nodes to

require the same nodes to perform both the add/drop function and the termination function(s). The Examiner is correct (Ans. 12-14) that, properly interpreted, these claims encompass Way's hub node operation, albeit with a different arrangement, e.g., one where the two recited actions of the claims discussed *supra* are performed by plural nodes that are different from, and not the *same* as the hub node.

Appellants' argument (Reply Br. 5) that Way's switch 22 does not *passively* add and drop traffic to and from the optical ring is also not convincing. If switch 22 is open, then no traffic is passed (i.e., traffic is dropped). Thus, after instruction is received from an outside source, switch 22 is opened. This means that traffic is passively dropped after the switch is opened (i.e., the optical ring does not include hardware to perform such a function). Notably, Way also describes four different embodiments as "passive optical ring networks (Figs. 20(a)-(d); ¶¶ [0043]-[0046] and [0085]; FF 2).

Thus, we are not persuaded by Appellants' arguments (App. Br. 21-22 and 24-25; Reply Br. 4-6) that Way fails to disclose the common limitation recited in independent claims 1, 12, 16, 23, and 32 of hub node(s) that (i) passively add and drop one or more traffic strings to and from a ring, *and* (ii) terminate a respective sub-band of the optical traffic. We will therefore sustain the Examiner's anticipation rejection of claims 1, 12, 16, 23, and 32, as well as claims 2, 3, 5 to 10, 13, 14, 17, and 18 which depend respectively therefrom.

Third Issue: Claims 8 to 10 and 29 to 31

We are also not persuaded by Appellants' arguments as to claims 8 and 29. Way discloses the limitation common to claims 8 to 10 and 29 to 31 of a hub node transport element operable to "selectively pass or terminate" traffic on the optical ring because (i) as Appellants admit, Way discloses *dropping* traffic in the optical ring (Reply Br. 6), and (ii) we agree with the Examiner (Ans. 15-16) that Ways' couplers 120 in Figure 23 act as "drop ports" and terminate traffic, and tunable filter 166 also acts to terminate certain wavelengths from the traffic (FF 3).

Because we distinguish no significant difference between dropping or terminating traffic, and independent claims 8 and 29 merely require passing or terminating traffic in the alternative, Way's termination of traffic on a ring satisfies the limitations at issue. The Examiner is also correct (Ans. 14-16) that Way's Figure 6 suggests that nodes 26 also serve to drop or terminate traffic from the ring. In view of the foregoing, we will sustain the Examiner's anticipation rejection of claims 8 and 29, as well as claims 9, 10, 30, and 31 which depend respectively therefrom.

Obviousness Rejection of Claims 4, 11, 15, and 19

The Examiner rejected claims 4, 11, 15, and 19 under 35 U.S.C. § 103(a) based upon the teachings of Way and Johnson, relying on Johnson as teaching a (de)multiplexer being an array waveguide (Ans. 6). Appellants merely present nominal arguments to claims 4, 11, 15, and 19 by grouping them by number with the arguments regarding the anticipation rejection of claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 34 (App. Br. 21-25; Reply Br. 4-6). Appellants have not particularly pointed out errors in the

Examiner's reasoning to persuasively rebut the Examiner's prima facie case of obviousness.

We will sustain the obviousness rejection of claims 4, 11, 15, and 19 over Way and Johnson for the reasons discussed *supra* with regard to the teachings of Way, and because Appellants have failed to rebut the Examiner's prima facie case of obviousness. *See* 37 C.F.R. § 41.37(c)(1)(vii) (requiring a statement in the briefs as to each ground of rejection presented by Appellant for review); 37 C.F.R. § 41.37(c)(1)(vii) (stating that arguments not presented in the briefs by Appellants will be refused consideration).

CONCLUSIONS

Anticipation Rejection

First Issue

Way does not disclose (i) plural photonic domains for communicating different traffic streams in the same sub-band without interference, and (ii) plural hub nodes on one single and same optical ring for communicating traffic as set forth in claims 35 to 46. Accordingly, we will not sustain the Examiner's anticipation rejection with regard to these claims.

Second Issue

A proper interpretation of claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 34 does not encompass a hub node(s) that (i) passively adds and drops one or more traffic strings to and from a ring, *and* (ii) terminates a respective sub-band of the optical traffic. Accordingly, Appellants arguments in this respect are unconvincing and we will sustain the anticipation rejection of these claims.

Third Issue

Way discloses the limitation common to claims 8 to 10 and 29 to 31 of a hub node transport element operable to "selectively pass or terminate" traffic on the optical ring because Way selectively terminates traffic on an optical ring. Accordingly, Appellants arguments in this respect are unconvincing and we will sustain the anticipation rejection of these claims.

Obviousness Rejection

Based on Appellants' failure to address the Examiner's prima facie case of obviousness, Appellants have failed to show that the Examiner erred in determining that Way and Johnson teach or suggest the optical network and method of communicating using an optical network as recited in claims 4, 11, 15, and 19. Accordingly, we will sustain the Examiner's obviousness rejection of these claims.

Summary

We conclude that Appellants have adequately shown the Examiner erred in rejecting claims 35 to 46 under 35 U.S.C. § 102(e). Appellants have not shown the Examiner erred in rejecting claims 1 to 3, 5 to 10, 12 to 14, 16 to 18, and 20 to 34 under 35 U.S.C. § 102(e), and in rejecting claims 4, 11, 15, and 19 under 35 U.S.C. § 103(a).

ORDER

The decision of the Examiner rejecting claims 1 to 34 is affirmed. The decision of the Examiner rejecting claims 35 to 46 is reversed. Accordingly, the decision of the Examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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